

FIBROSIS OF THYROID, PARTIAL THYROIDEC-  
TOMY, TRACHEOTOMY, AND DILATATION  
OF THE STENOSED TRACHEA.

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FIBROSIS or fibrous degeneration of the thyroid gland following upon a primary enlargement must be a very rare disease. No case of the kind appears to have been put on record. Ziegler alone simply mentions the occurrence of the disease. The clinical course of the case before and after operations, as well as the microscopical appearances of the portion removed, exclude fibrosarcoma such as described by Bowlby.<sup>1</sup>

A pale, thin domestic servant was born and has always lived in London. More than seven years ago her parents noticed a soft swelling in the region of the thyroid which, after existing for some time, gradually got smaller and harder. With this decrease in size difficulty in breathing came on.

The mother has had for years a soft thyroid tumor situated at the junction between the isthmus and the right lobe. This is either an adenoma or a flaccid cyst.

When the patient was first seen the thyroid gland appeared to be normal, both in shape and size, but it was of stony hardness. The pulse was 130 or 140 per minute without exophthalmos. Stridor was heard over the whole chest, being loudest in the trachea at the level of the isthmus. Over the apices of the lungs the sounds were not unlike those commonly associated with phthisis. She exhibited, however, no other signs of this disease.

<sup>1</sup> Lancet, 1884, II, 1001.

Whilst under observation the stridor gradually increased, and cyanosis became marked; the pulse never fell below 130.

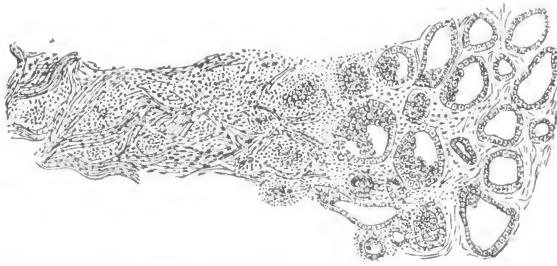
The duration of the affection and the decrease in size of the thyroid from its previous enlarged state led me to make a diagnosis of calcification of a formerly enlarged bronchocele.

On April 11, 1894, under slight chloroform anæsthesia, a median incision was made down to the isthmus. The texture of the isthmus when cut into was that of the hardest fibrous tumor, but there was no calcification. In spite of careful attempts, no line of demarcation could be made out between the isthmus and the trachea; therefore the isthmus and the adjacent part of each lateral lobe were shaved off from the trachea, leaving a portion of the gland on either side about as large as the end point of the thumb. The trachea thus exposed felt like a soft tube and was sucked in and blown out by inspiration and expiration. The cartilaginous rings had softened or disappeared. As the breathing was none the better for the removal of the isthmus, the trachea was opened immediately below the cricoid cartilage. The rings were at this spot normal, but on retracting the sides of the incised trachea the lumen was seen to be narrowed below to a chink. The incision was therefore extended downward through the part of the trachea which had been in contact with the thyroid until cartilaginous rings were again met with. The mucous membrane appeared normal, being merely thrown into folds in the narrow part. A Parker's silver tracheotomy tube was inserted, and the breathing became free. After the patient had worn the tube for a fortnight she was gradually able to discard it, so that at the end of a month from the operation the wound in the neck had entirely closed.

The patient was shown at a meeting of the Laryngological Society of London on December 12,—*i.e.*, ten months after,—in good health, breathing without trouble, a faint stridor only being audible in the trachea. The remainder of the thyroid on either side of the trachea could be felt to be very hard and, perhaps, at this time a little smaller than immediately after the operation. Certainly there had been no increase. The pulse-rate was still 120 per minute.

On examination of the tissue removed, a part showed thyroid alveoli in no way dilated and containing normal colloid matter, but the alveoli were separated from one another by an increased amount of fibrous tissue. In the rest of the material removed all glandular structures had been replaced by dense fibrous tissue, without any sign of sarcomatous elements or of cysts, but showing vessels with well-marked walls.

Between these two parts the thyroid alveoli were smaller in size and filled with epithelial cells, or clumps of epithelial cells surrounded by small cells marked the position of a former alveolus, or, lastly, groups of small round cells alone were visible. The fibrosis seemed to have spread inward from the capsule of the gland.



Section showing minute structure of the degenerated thyroid gland.

After the longitudinal division of the stenosed portion of the trachea the dilatation may be expected to persist to a large extent, if the behavior of other strictured tubes forms any analogy. The unaltered condition of the mucous membrane must importantly favor the maintenance of the dilatation. The rapid pulse would seem to date from the time when an enlarged bronchocele was present. It is remarkable that it should remain rapid when so much of the gland has been put out of action. No myxœdematous symptoms have supervened, for some active thyroid tissue is still left, and the stony hardness of the gland differs widely from the soft and withered gland occurring with myxœdema. The most important surgical feature was the fact that the trachea was intimately included in the disease, whereas the clinical and microscopical appearances are clearly opposed to malignancy.